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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/502,410	07/23/2004	Ewald Schmidt	3026	5774

7590

08/19/2005

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103 East Neck Road
Huntington, NY 11743

EXAMINER

HO, BINH VAN

ART UNIT	PAPER NUMBER
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2821

DATE MAILED: 08/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/502,410	Applicant(s) SCHMIDT ET AL.	
	Examiner Binh V. Ho	Art Unit 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 2-11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 23 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>07/23/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 7/23/2004 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. A copy of reference number "20/103846 A" has not been received. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Objections

2. Claim 1 is objected to because of the following informalities:

In claim 1, lines 6, "LTCC" should be changed to --Low Temperature Co-fired Ceramic (LTCC)--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Breglia (6,492,949).

Breglia discloses a planar antenna array in a radar sensor for detecting objects in the vicinity of a motor vehicle, with a multitude of microstrip feeder lines (188) and a

Art Unit: 2821

multitude of coupling slots (col. 2, lines 7 +) for emitting microwave energy into open space, characterized in that the feeder lines (188) and the coupling slots (col. 2, lines 7 +) are embodied in a multilayer ceramic substrate (Figure 10) produced by means of the LTCC (col. 2, lines 10 +) thick layer technique with an upper (col. 1, lines 65 +) and a lower grounded layer, and the feeder lines (188) and coupling slots (col. 2, lines 7 +) are enclosed by plated-through contacts (160) from the upper grounded layer (col. 1, lines 65 +) to the lower (col. 1, lines 65 +) one.

Allowable Subject Matter

5. Claims 2 to 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 2 and 3, Breglia fails to further, among other features teach the characterized in that the feeder lines and coupling slots are surrounded at a fixed distance by plated-through contacts, the distance being smaller than a critical distance at which waveguide modes form in claim 2 and characterized in that the fixed distance lies in the range from approx. $0.01 \cdot \lambda$ to approx. $0.1 \cdot \lambda$, where λ is the wavelength of the microwave radiation emitted in claim 3.

Regarding claim 4, Breglia fails to further, among other features teach the characterized in that each coupling slot is enclosed by a single-row arrangement of plated-through contacts.

Regarding claim 5, Breglia fails to further, among other features teach the characterized in that each coupling slot is enclosed by a double-row arrangement of plated-through contacts, wherein the two rows are aligned with each other or offset from each other.

Regarding claim 6, Breglia fails to further, among other features teach the characterized in that the distance of the coupling slots from the end of the resonator is essentially $(2n-1) \cdot \lambda / 4$, where λ is the wavelength of the emitted microwave radiation and n is a natural number.

Regarding claim 7, Breglia fails to further, among other features teach the characterized in that the distance of the coupling slots from the back wall is essentially $2n \cdot \lambda / 4$, where λ is the wavelength of the microwave radiation emitted and n is a natural number.

Regarding claim 8, Breglia fails to further, among other features teach the characterized in that the plated-through contacts enclose the coupling slots along an essentially rectangular perimeter line, wherein the distance of the coupling slots from the edge of the plated-through contacts is preferably essentially $2n \cdot \lambda / 4$ perpendicular to the slot direction, where λ is the wavelength of the microwave radiation emitted and n is a natural number.

Regarding claim 9, Breglia fails to further, among other features teach the characterized in that the plated-through contacts enclose the coupling slots along a perimeter line that bulges in the middle of the slots, wherein the distance is greater than $2n \cdot \lambda / 4$ in the middle of the slots and is less than $2n \cdot \lambda / 4$ outside the middle,

where λ is the wavelength of the microwave radiation emitted and n is a natural number.

Regarding claim 10, Breglia fails to further, among other features teach the characterized in that the plated-through contacts enclose the coupling slots along a perimeter line with rounded corners.

Regarding claim 11, Breglia fails to further, among other features teach the characterized in that two rows of plated-through contacts are provided spaced apart from each other by the distance of half a wavelength.

Inquiry

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binh V. Ho whose telephone number is 571 272 8583. The examiner can normally be reached on M-F from 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don K. Wong can be reached on 571 272 1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/502,410

Page 6

Art Unit: 2821

Binh V Ho
Examiner
Art Unit 2821

Binh Van Ho
08/11/2005

A handwritten signature in black ink, appearing to read 'Hoang V. Nguyen', with a long horizontal flourish extending to the right.

HOANG V. NGUYEN
PRIMARY EXAMINER